Prefabricated Homes.

PREFABRICATED HOMES

by

G. MARY CAMPION

Borthwick 1947.

PREFACE

During the second world war the building of houses was brought almost to a standstill, also there was the natural wastage of houses which would have been condemned as not being fit for habitation, and in addition there was the damage and destruction of houses due to the effects of war.

These factors were mainly responsible for causing a very serious housing shortage.

It was realised that the building of houses by ordinary methods and of standard materials would not be able to satisfy the requirements during the immediate post war years, so that it was decided to mobilize as much as reasonably possible men and materials outside the orthodox building industry, hence as an example factories which during the war were devoted to the construction of aircraft have been utilized for the manufacture of aluminium houses, the shells of which can be transported en bloc from the factory to the previously constructed foundation, and although these houses are regarded as a temporary measure, it is regarded as a satisfactory method of providing suitable accommodation for a vast number of families who would otherwise be compelled to live under most appalling conditions.

February 1947

G.M.C.

AUTHOR'S NOTE

The compiling of the following information has necessitated visits to:-

The sites at Bath where AIROH houses (aluminium) and Uni-seco bungalows have been and are being erected.

Two sites in the Forest Hill area where the Terrun and Uni-seco types are being erected.

The Housing Dept., Guildhall Bath who were very helpful in giving information.

Bath & Wilts Chronicle & Herald who supplied photographs.

Uni-Seco Headquarters, Park Lane, London who kindly showed me a bungalow in the course of erection, also photographs and films, and they expounded their plans for the future.

Director of Temporary Housing, Ministry of Works, Lambeth House, Westminster. The sub-Director of the Ministry most courteously gave me a brief resume of the history of temporary housing during the past few years, explaining its "birth and its teething troubles".

Ministry of Works, Bath who rendered much general information on temporary housing.

A great deal of information has been obtained from the study of the following publications:-

"Temporary Accommodation" H.M.S.O.

"Prefabricated Homes" by Bernard H. Cox

"Prefabrication in Building" by Richard Sheppard

C O N T E N T S

CHAPTER I

WHAT DOES "PREFABRICATION" MEAN?

"Prefabrication" is a word on everyone's lips nowadays and, as is always the case with the fashionable word of the moment, it is often used very loosely. Does it really mean anything? Is it the new-found panacea for all our building problems, or is it a stunt or a meaningless catch-word?

Prefabrication is the manufacture of parts of buildings or complete buildings in factories. It means organising the production of houses on lines similar to the production of industrial goods, such as cars or radio sets.

An obvious difficulty is that no one can say exactly how many factory-produced units need to be included in a building before it can be described as prefabricated. It is quite safe to say that there is not a single modern building which does not contain some such units, for throughout the last century and more there has been a gradual infiltration of manufactured units within the stronghold of traditional methods.

Although doors and windows are now largely mass-produced by machinery, when it comes to putting them into place as part of the building, fixing and fitting are still done by hand in the old way, so that prefabrication is not really being used in the fullest sense. Together with factory production there must be rationalisation of site work.

The kind of prefabrication with which we are concerned involves the shop manufacture of units of substantial size either for rapid assembly on the site, or for the complete assembly of house parts or even whole houses in the factory.

The building industry, the second largest in this country, is one of the least developed in its technical possibilities. The use which it makes of modern mechanisation, standarisation, mass-production and precision methods is still small, and the result is that there has not been progress comparable with that in many other fields. Compare the house of to-day and the car of to-day with their counter-parts of forty years ago. The modern car is half the cost and many times as good, the house is twice the cost and very little better. Most of those features of the house where there is an improvement are fittings and items of the "gadget" type, which are prefabricated; the quality of the actual may well be inferior.

Of course, the unqualified comparision is hardly fair. The car industry is a new one, starting from scratch, while we already have a large traditional building industry in existence. The house can never be prefabricated in quite the same way as the car, for there are certain items, such as foundations and drains, which must always remain as site works. Neither can a house transport itself to its site! Nevertheless, the difference in the progress of the two industries is striking enough to provide food for thought.

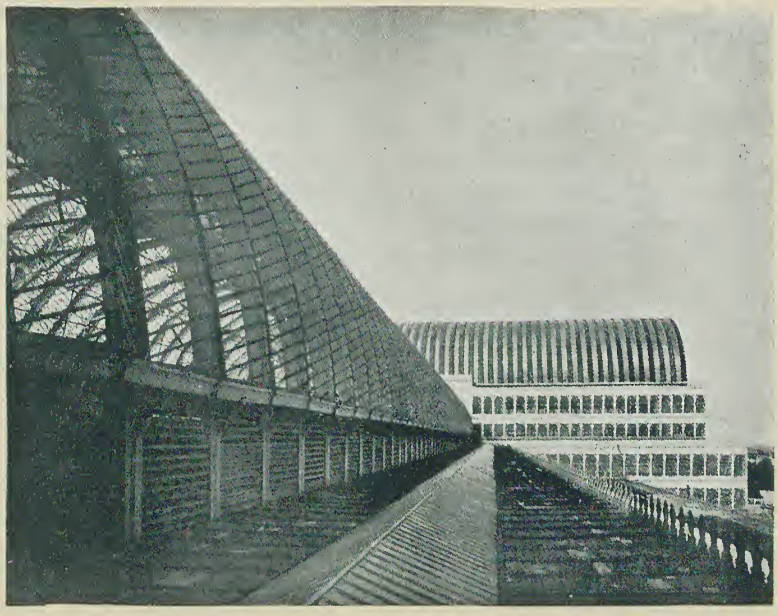
CHAPTER 2.

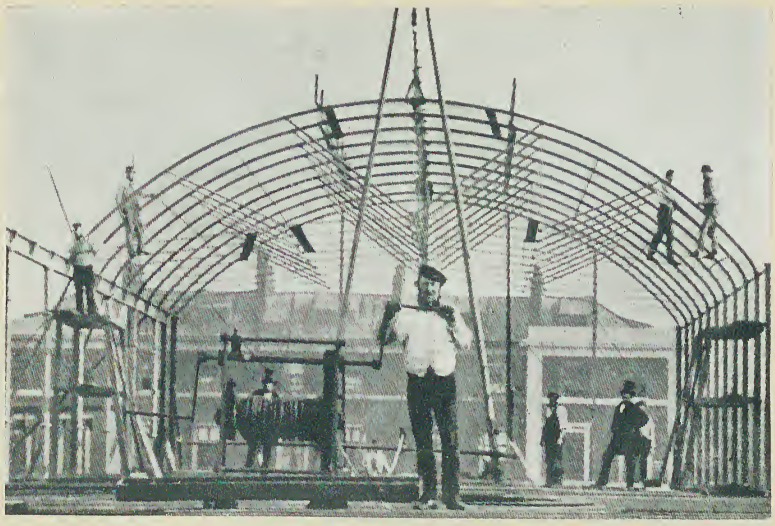
TEMPORARY HOUSING

Prefabrication has been traced back to William the Conqueror, as it is said that when he landed in England his masons immediately set to work levelling sites and then the barges brought ashore huts in wooden sections.

It is strange when we think back only a year or so ago to the Mulberry harbour, and how that was taken across the channel to France; so many years between and yet the principle was the same.

Few people too appreciate the fact that England was first in promoting this type of building design. The Crystal Palace, erected in 1851 in Hyde Park, was essentially a prefabricated building. Its erection in a period of 22 weeks, covering an area of 18 acres, was a feat which was no less remarkable than its subsequent dismantling and re-erection on its second site, without one pane of glass being broken.





CRYSTAL PALACE IN COURSE OF ERECTION

Naturally prefabricated parts tend to give the idea of sameness yet if we think back to the pre-war brick council houses they were more or less standardised and some of them were very hideous; often there being rows and rows of one type of house absolutely identical in shape and form. Surely this was not really necessary?

After the 1918 war the number of houses built was small, the housing problem was serious and there was great unemployment in the steel industry. To help this situation steel houses were manufactured which employed a considerable measure of prefabrication. The Atholl house is a example although from outward appearance it looks very similar to any other brick house built at the same time with rendered or roughcast finish to the walls.

The production of steel houses ceased by 1928 owing to economic reasons and Trade Union opposition.

The idea of manufacturing prefabricated houses was first conceived by the Government, the latter end of 1940.

In 1942 thought was given to the serious housing shortage there would be after the cessation of hostilities. Also there would be fewer men in the building trades than there were when the war began, and their numbers could not be expected to increase very quickly as their skill takes a long time to acquire. Therefore prefabrication was thought about because of the speed that would be the essential factor in this after-the-war housing, and unskilled and semi-skilled labour being able to help with the manufacture.

Early in 1944 a panel including housewives and architects was formed and they gave their opinions as to layout and form etc. that a prefabricated house should take.

On the 10th October 1944 The Housing (Temporary Accommodation) Act became law. It contained statutory provisions necessary to enable effect to be given to the temporary programme.

A description of the provisions of the Act is given below:-

Section 1 empowers the Minister of Health to supply housing authorities on agreed terms with structures i.e. temporary houses, to be erected by the Minister of Works on land belonging to the authorities. By the proviso this power is limited, unless Parliament otherwise determines, to temporary houses which are erected or intended by the 1st October, 1947.

Section 2 Subsection (1) gives the Minister power to remove the temporary houses when there is no longer need for them. It also empowers a local authority to require the Minister to remove the houses at any time after ten years from the passing of the Act unless the Minister is satisfied that housing conditions require that they should remain.

Subsection (2) provides that when a temporary house is dismantled and removed the Minister may, if the local authority desire, clear the land of any sub-structure.

Subsection (3) provides that the material and fittings of the temporary houses when removed shall belong to the crown.

Section 3 Subsection (1) provides that the terms agreed

between the Minister and the housing authority shall provide for an agreed sum per annum to be paid by the local authority to the Minister while the temporary house continues in their possession. Where, however, the site is of exceptionally high value no such provision need be included and the Minister may agree to make a payment to the authority.

Subsection (2) deals with various matters, e.g. management, maintenance etc., which may be covered by the terms agreed.

Section 4 Subsection (1) brings the temporary houses to be erected under the Act within the provisions of the Housing Act, 1936, relating to houses provided by a local authority.

Subsection (2) brings land needed as sites for the temporary houses within the provisions of the Housing Act as to the acquisition of land for housing purposes.

Subsection (3) makes the London County Council a local authority for the purposes of the Act and enables them to erect temporary houses within the County.

Subsection (4) has the effect that notwithstanding Section 138 of the Housing Act no person will be enabled to depart from the byelaws merely because in the construction of the temporary houses or in their arrangement on the site, the byelaws have not been complied with.

Section 5 Subsection (1) gives the local authority power to enter on land to ascertain whether it is suitable for temporary houses in any case in which they have already obtained a compulsory purchase order for the land or are considering its purchase. The entry is only for the purpose of surveying, taking levels, etc., and if the land is in occupation, 24 hours' notice must be given.

Subsection (2) provides that where as a result of entry under subsection (1) any damage is caused to the land, compensation is to be paid.

Section 6 provides a rapid procedure whereby a local authority may obtain possession of the land required for the erection of temporary houses.

Subsection (1) limits the exercise of the power conferred by the section to the period between the 10th October 1944, and the 31st December, 1945.

Subsection (2) empowers a local authority to take possession of land on an authorisation from the Minister subject to the requirement that they must serve on the owners and occupiers of the land a notice of their intention to apply for an authorisation, and the Minister before granting the authorisation must consider any representations which the owners and occupiers may make.

Subsection (3) provides a simplified method of service of a notice under the previous subsection. If there is no one on the land to whom the notice can be given it may be posted up on the land, and it will be unnecessary for separate notices to be posted on each separate ownership comprising the site, provided that the notice describes all the land to which it applies.

Subsection (4) provides that where an authority has taken possession of a site under the section they must proceed to purchase it, subsequent procedure being the same as if the land was being acquired under a confirmed compulsory purchase order, including the settling of the purchase by arbitration in default of agreement.

Subsection (5) makes it unnecessary to comply with the provisions of Sections 84 to 90 of the Lands Clauses Consolidation Act, 1845, as to depositing security or giving bonds, but makes compensation and interest thereon run from the date of entry.

Subsection (6) empowers the local authority to prepare the land for development, erect temporary structures on it and let them as soon as they are in possession without waiting for the completion of the purchase.

Subsection (7) defines the term "owner" as having the same meaning as under the Housing Act.

Section 7 is the application to Scotland section.

Section 8 contains detailed provisions for the financing of the scheme by the Exchequer.

Section 9 gives the short title, etc. and provides that the Act shall be construed as one with the Housing Act, 1936.

It will be seen that broadly speaking the effect of the Act will be to assimilate the temporary houses once they are erected with the other houses owned by the local authority in order that they may be managed and administered on the same general lines.

By November 1944 the plans submitted by the panel were more or less finished and the next great problem was the material to be used for the main structure. Steel was considered to be the most suitable, but with the steel shortage it was not practicable. Asbestos cement was next considered bu there were not enough firms available to turn out houses of this material. Timber was out of the question (as we grow little wood in England), but timber and flat asbestos was a possibility. Steel sheet, concrete and pre-cast concrete block were also given thought.

Naturally as the war was still on it was impossible for the Government to approach a firm and ask them to commence work on manufacturing thousands of prefabricated temporary houses as nearly all the large firms in the country were making munitions.

Therefore many firms were approached just to make one part of the house. Distressed areas were sought out, in fact anywhere where there was spare labour. A factory in the north which had only been built in case other factories were crippled by bombing was taken over for the manufacture of metal fitments.

With the raw material situation remaining critical it was found necessary to manufacture houses of different materials and so the different types were conceived. The main materials used however were:-

Asbestos, Steel, Concrete, Alluminium and Composition Board

Eight of the houses approved by the Government are:-

The Pressed Steel house
The Arcon Mark V house
The Uni-Seco house
The Tarran house

The Spooner house
The Seco Mark 3 house
The Tarran Mark 4 house
The Aluminium house

All houses contain the Government Kitchen, Bathroom unit, which incorporates all heating and hot water and all kitchen and bathroom fittings requiring gas or electric power, water supply and drainage. The factory assembly will include all wiring, piping, fitters' and plumbers' work and when the unit is placed into position it will be ready for one simple connection to be made to each service supply. The unit has been designed to accommodate standard gas and electric fittings and is prefabricated for the use of gas or electric power as required. Adequate access to services is provided. All outlets of waste water discharge through one common outlet into one external gully. All water storage, heating and hot water is contained in one compact section of the unit, the source of heating being the living room stove with back boiler. Hot water cylinder is also fitted with an electric immersion heater for boosting heating of water and for use when stove is not working. The hot water cylinder also heats the airing cupboard. A heated towel rail is provided. The living room fire is arranged to supply warm air through ducts at ceiling level to discharge into the two bedrooms.

The complete unit includes the following fittings:-

<u>On Kitchen side</u>

Refrigerator (gas or electric) fitted under draining board.
Combined sink and draining board with hot and cold water supply to sink and hot water supply to washing boiler.
Washing boiler (gas or electric) with flap work-top and compartment for wringer which is hinged to lie flat when not in use.
Cupboard under sink. This will contain gas meter.
Cooker (gas or electric).
Working bench with two drawers and two cupboards under, one cupboard being fitted as a vegetable store.
Plate rack over cooker.
Cupboard, shelving and dish cloth rail over draining board.
Pot rack and pot lid rack.

Lighting and kettle points and an electric control and fuse panel.

On Living Room Side

Solid fuel stove with back boiler

On Hall Side

Airing cupboard fitted with slatted shelving
Hot water cylinder and cold water storage cistern.

On Bathroom Side

Lavatory basin and bath, H. & C. water supply.
Heated towel rail.
Lighting point over lavatory basin.
Cupboards under lavatory basin.
Shelves at end of bath.

Cupboard Units (Central Hall type Entrance)
These are separate units assembled in two groups as follows:-

Each bedroom has a wardrobe, cupboard unit.

The living room and kitchen share a utility cupboard unit.

No price stipulation was made to any firms making prefrabricated temporary houses, but it is interesting to note that in some cases prices have dropped as much as 50%.

Under the Lease-lend agreement Britain was to receive 30,000 U. S. temporary houses, but after 8,450 had been delivered lease-lend came to an end.

The U. S. temporary houses are considered by most people slightly more attractive from the exterior than ours, but the interior units are very disappointing.

In the kitchen there is no refrigerator, washing boiler or built in cupboards. The sink has only

one draining board and all pipes are exposed. The water storage tank is exposed and not even lagged.

After the cessation of hostilities aircraft factories were no longer needed to produce aircraft and if they were closed down it was estimated that between 80 - 90 thousand employees would be thrown out of work.

To prevent this catastrophe the Government asked ten aircraft firms to send a representative to form a committee to be called Aircraft Industries Research on Housing (financed by the Government). This committee then reported to the Ministry of Production and the outcome of it was that four firms commenced production of Alluminium (AIROH) houses.

Alluminium was available for use as none was being used in the manufacture of aircraft, and also the alluminium from crashed enemy aircraft was collected together and melted down.

The Swedish prefabricated houses in this country have been bought by the Government and are of a permanent nature.

The temporary housing scheme has only been brought about because of the speed that is the essential factor in this after the war housing.

During the war Great Britain lost 200,000 houses completely destroyed, 25,000 were seriously damaged and 4,000,000 slightly damaged.

The scheduled number of temporary houses to be completed by 1st October 1947 is 158,000, and of this number 96,000 were completed by December 1946.

From these figures it can be seen that temporary housing is only playing a small part towards the re-h ousing of Britain, but it is a step in the right direction.

CHAPTER 3.

THE CITY OF BATH & TEMPORARY HOUSING

Bath is a City with a population of 76,470 people. At the beginning of the war the Admiralty commandeered many of the City's hotels, hence Bath became very overcrowded with Civil Servants besides other civilians coming to the City as Bath was declared to be a safe area.

In April 1942 Bath had two air raids and many families were rendered homeless.

Naturally now that the war has ended Bath is in great need of houses and to help to overcome this deficiency 600 temporary prefabricated houses are scheduled to be erected.

From the map at the end of the book, it will be seen how the sites are spread around Bath. All the temporary houses except those erected on the Odd Down playing fields are of Uni-seco design. The Bristol AIROH (aluminium) house has been erected on the Odd Down playing fields.

Detailed descriptions, plans and photographs of each house will be found in succeeding chapters.

At the end of 1946 the number of applicants on the current waiting list was 4157, so this can be extimated as being tantamount to saying that this is the number of families who have applied and desire a house.

Naturally after seven years of little or no building houses are at present occupied which are unfit for human habitation or are included in clearance areas.

According to the latest statistics it is estimated that there is a need for approximately 8000 new houses, and immediately 3000.

Of the war damaged houses in Bath only 157 have been rebuilt or repaired by the end of 1946.

So far 88 permanent houses have been erected and it is proposed to erect another 1096. These figures with the 600 temporary prefabricated houses total 1784, which means that 1216 houses are still needed immediately in Bath.

When a Local Authority desires temporary houses to be erected to ease its housing shortage it first of all has to look around for suitable sites on which to erect the houses.

Bungalows may be built on sites or parts of sites which will ultimately be used for the erection of permanent houses, or on open spaces which are not likely to be required for playing fields or recreational purposes during the next ten years.

Naturally no permanent building site would be utilised if it was intended in the City's building plan to erect permanent houses on the said site inside of ten years.

In the case of war damage, sites of houses which are eligible for cost of works payment, are not allowed to be considered.

Wherever possible sites for bungalows should be sufficient for not less than 100 or in the case of Authorities with smaller programmes for not less than 50 bungalows. There is however no objection to the inclusion of smaller sites in close proximity to one another.

Local Authorities under the Act are empowered to obtain possession of land on which temporary dwellings are to be erected more quickly than under normal procedure.

In November 1944 Local Authorities were advised to acquire all the land they were likely to require. Sites could then be agreed, with the local planning authority and the Regional Planning Officer, and afterwards submitted to the Senior Regional Officer of the

Ministry of Health. It was pointed out to the Authorities that when the bungalows were in manufacture, delivery must be taken as soon as they were ready as no arrangements could be made for storage.

It was realised that a bungalow could not provide the same opportunities for architectural treatment as for permanent houses of a variety of types and size. As however the bungalows have been given a 10 years life it was pointed out that every effort must be made to see that their surroundings were as pleasant as possible; and that the layout of the bungalows and their colour scheme were executed with great care.

On sites which were not ultimately going to be needed for permanent housing Local Authorities naturally wish to economise on work and money, and it was recommended that where new temporary roads are required they should be of the most economical design and construction suitable to their use as purely short-lived service roads. Provided there were grass margins, kerbs, channels and footpaths could be omitted.

As will be seen from the photograph of the AIROH house on the cover of this book, houses built against pleasing surroundings are made to appear far more attractive, and permission was therefore given for additional planting of trees where necessary, especially if it would be of a permanent nature. In consequence of this thought given to surroundings tenants are always asked to keep their gardens in satisfactory condition.

Naturally all sites vary but to guide Local Authorities in layout the Ministry of Health in H.M.S.O's Temporary Accommodation, have suggested thirteen methods of layout in diagram form. When plans have been settled by the Local Authorities they have to be submitted for approval to the Senior Regional Officer of the Ministry of Health.

As soon as the layout is approved authority is given to invite tenders for its erection. When this is accepted an application is sent in for the necessary loan sanction.

The next step before the Ministry of Works start work on the sites is for the roads and sewers to be constructed and all necessary main services to be

made available.

Great care in timing the work must be taken as all the above work must be completed by the time arranged for the delivery of the actual bungalows.

The Ministry of Works carries out all work within the curtilage of the houses including setting out in accordance with the plans supplied by the local Authority, construction of foundation slabs, erection of superstructure with all fittings, construction of paths on actual house plots, fencing for back gardens only, laying of drains, water, gas and electricity services to the point of junction with the main services. Full responsibility is also accepted for providing adequate foundations and for the structure of the house, and all site supervision is arranged by the Ministry of Works.

Maintenance

The Local Authority is responsible for the repair and maintenance of the bungalows as long as they stand on the site.

The bungalows have all been designed in such a way as to be capable of erection by the building industry with ordinary building labour, and maintenance should not present any special problems which Local Authorities cannot deal with through their normal maintenance staff.

If any unforeseen trouble does arise the Ministry of Works is always ready to give advice, and with any serious defect will either remove the house and replace it or put it in order.

The Ministry of Works is responsible for seeing that supplies are available of essential parts which are of a type peculiar to the bungalows and which may be required by Local Authorities for maintenance purposes. These are obtained by Local Authorities through normal channels. Gas and electricity equipment is maintenanced by local supply authorities.

Selection of Tenants

The selection of tenants is left very much to the Local Authority although they are re-

quired to give reasonable preference to such persons who are occupying insanitary or overcrowded houses, have large families or are living under unsatisfactory housing conditions.

The bungalows are designed to provide accommodation for three to four persons according to age and sex. The Local Authority therefore looks to the permanent houses to meet the needs of the larger family.

Rents

The rents charged to tenants of the bungalows are fixed by the Local Authority in the same way as for permanent houses and they are in a position to grant reductions as they think fit.

As many of the present families may be moving on to permanent houses as their families increase it is not thought desirable to fix the rent of the bungalows at too low a level or the occupants might be unwilling to seek or accept permanent accommodation.

Although the bungalows are smaller than the permanent houses they contain a number of items which have ordinarily been tenant's fixtures, the inclusion of which reduces the financial burden on the tenant.

Letting & Management

The Minister of Health has often stressed the value of trained management for municipal housing estates and can always be approached by the Local Authorities for assistance in the management of their bungalows and the advice of his advisor on housing management is always available too.

So that tenants may get the best advantage from the new dwellings, a short handbook is available for distribution to the tenants so that all new fittings etc., may be fully understood and utilised in the best possible way.

The bungalows are not suitable for very large furniture of the old type, but as most of the tenants are setting up a home for the first time the utility furniture which they can buy with their dockets is very suitable for the dwellings, and a photograph of the dining room of a Uni-seco bungalow (furnished with utility furniture) will be seen in a succeeding chapter.

Finance

The financial arrangements under the Act are on the following basis:-

1. The Local Authority will provide the site and the necessary services.

2. The Ministry of Works, on behalf of the Ministry of Health, will provide, or pay the cost of, a sub-structure for the temporary house and will erect the house thereon. It is estimated that this will involve the Ministry of Health in annual charges of £68.11.0d. per house for 10 years.

3. The Local Authority will let and manage the temporary houses as if they had been provided under the normal machinery of the Housing Acts.

4. All the transactions relating to the temporary houses will be included in the Housing Revenue Account.

5. Subject to any reduction that the Minister may make under the following paragraphs, an urban authority will pay to the Minister for each financial year the sum of £23.10.0d. for each temporary house. In arriving at this amount, a rent of 10s. 0d. per week exclusive of rates has been assumed and an allowance made of £6.10.0d. per annum to cover supervision and management, repairs and maintenance, and bad debts and voids; a contribution by the Local Authority of £4 has also been assumed. The special circumstances of Rural District Councils are recognised and their case is being met by the substitution of £21.10.0d. for £23.10.0d.

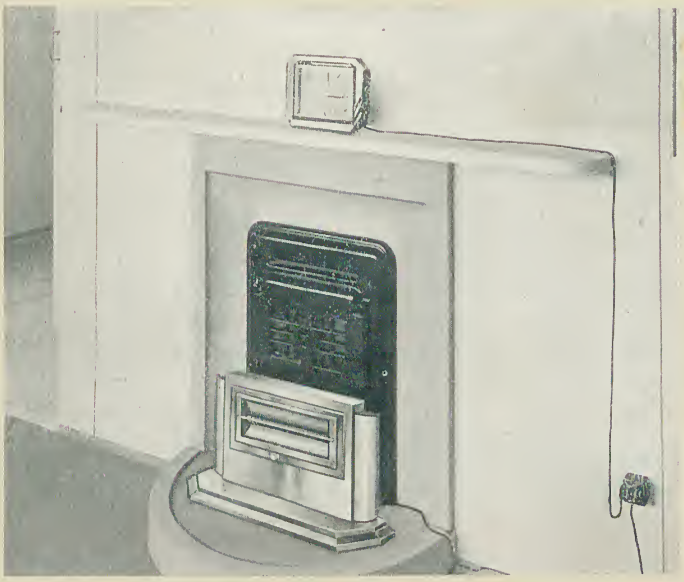
6. Under these arrangements the Local Authority are left to bear the site costs themselves. Where the houses are erected on land which will ultimately be used for housing purposes, the outlay on the site and much of the cost of developement will represent a permanent asset. It may, however, be necessary to erect them on sites which would in the ordinary way only be developed in blocks of flats owing to the high cost of the land or on sites where much of the expenditure on development will be wasteful. In order to meet cases where the site cost per house is appreciably in excess of £4 per annum, provision will be made in

the agreement under Section 3 (1) of the Act for a reduction in the annual sum payable by the Local Authority to the Minister.

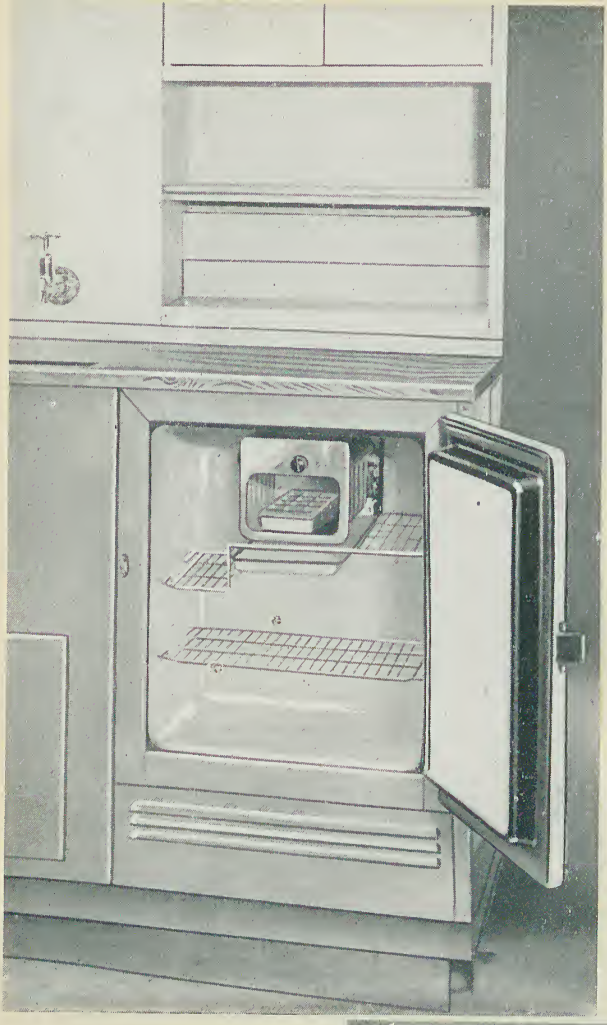
The Local Authority therefore undertakes to pay the Ministry of Health a total sum equivalent to £23.10.0d. per house each financial year, subject to a reduction in the case of any site where the costs of the land and developement are excessive.

To further safeguard Local Authorities against any serious cost to their funds an agreement has been made by which if a temporary house cost the local authority more than £8 per year (£6 in the case of a Rural District) the Authority can apply to the Minister for an adjustment on the total amount payable by him (or to him). Naturally though, the rents charged and the cost of management etc. would be taken into consideration.

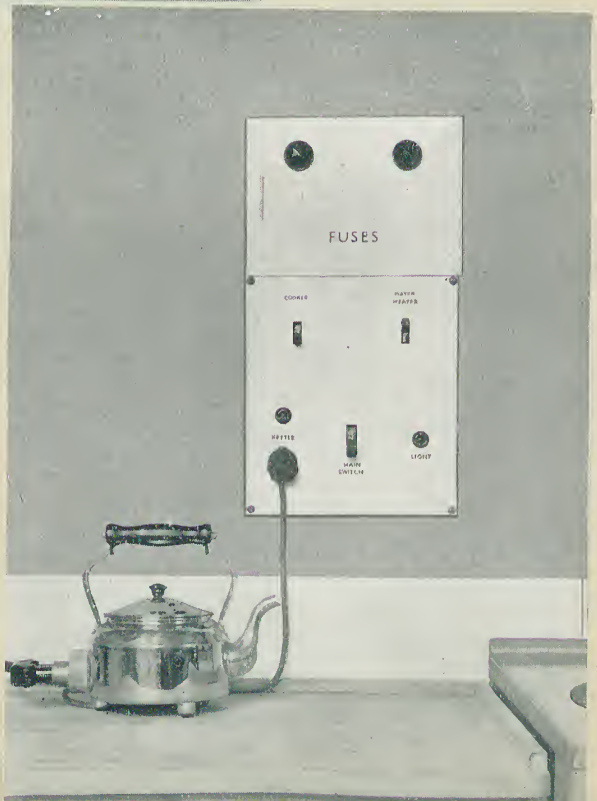
The payment of the money due to the Minister for each financial year will be effected by the withholding of an equivalent amount of Exchequer subsidy payable to the Local Authority under the other Housing Acts.



Electric fire placed in front of Living room solid fuel stove.



Refrigerator in
Kitchen Unit



The Control panel
in the kitchen

CHAPTER 4.

THE ALUMINIUM HOUSE

The Prefabricated House made by the Bristol Aeroplane Company is of the bungalow type and measures approximately 30 feet long by 22½ feet wide, giving a floor area of approximately 675 square feet and contains two bedrooms, living room, kitchen and bathroom with W.C.

There are two entrances, the front entrance opens into the hall which is suitably recessed to provide sufficient space for a pram, and from the hall access is gained to the living room, bathroom and the two bedrooms.

The side entrance gives access to the kitchen and the latter has a communicating door to the living room.

Decorations

The exterior walls are painted cream. The doors, windows, window surrounds and guttering are painted green which gives a pleasing effect. The interior walls and woodwork are decorated cream with the ceilings a slightly lighter shade.

Modern fitments have been provided and built to avoid unnecessary wastage of floor space and to give ample cupboard and storage capacity.

The Kitchen contains

1. Refrigerator)
2. Cooker) Gas or electric
3. Washing Copper)
4. Sink and Draining board, under which is a cupboard
5. Working bench with cupboard under

All the before-mentioned are of uniform height and are built along the whole length of one wall.

There is also

Larder with ventilator
Store cupboard
Plate rack and shelves

The layout of the kitchen renders it pleasing to the eye, and is so arranged that every assistance is given to the housewife to carry out her duties efficiently.

The partition wall between the kitchen and living room is partly glazed to give additional light to both rooms.

The Living Room is provided with bookshelves and a cupboard.

The Bathroom is fitted with:-

Airing cupboard
Wash basin — Under which is a cupboard, there is also a cupboard with fitted mirror over the basin.
Bath
W.C. suite
Heated towel rail

Bedroom No. 1 is provided with a utility cupboard also a linen cupboard and built into a recess and extending the full height of the room is a wardrobe.

Bedroom No. 2 is provided with a utility cupboard and built into a recess and extending the full height of the room is a wardrobe.

The whole house is provided with well designed windows which have metal frames and the window opening is of variable adjustment.

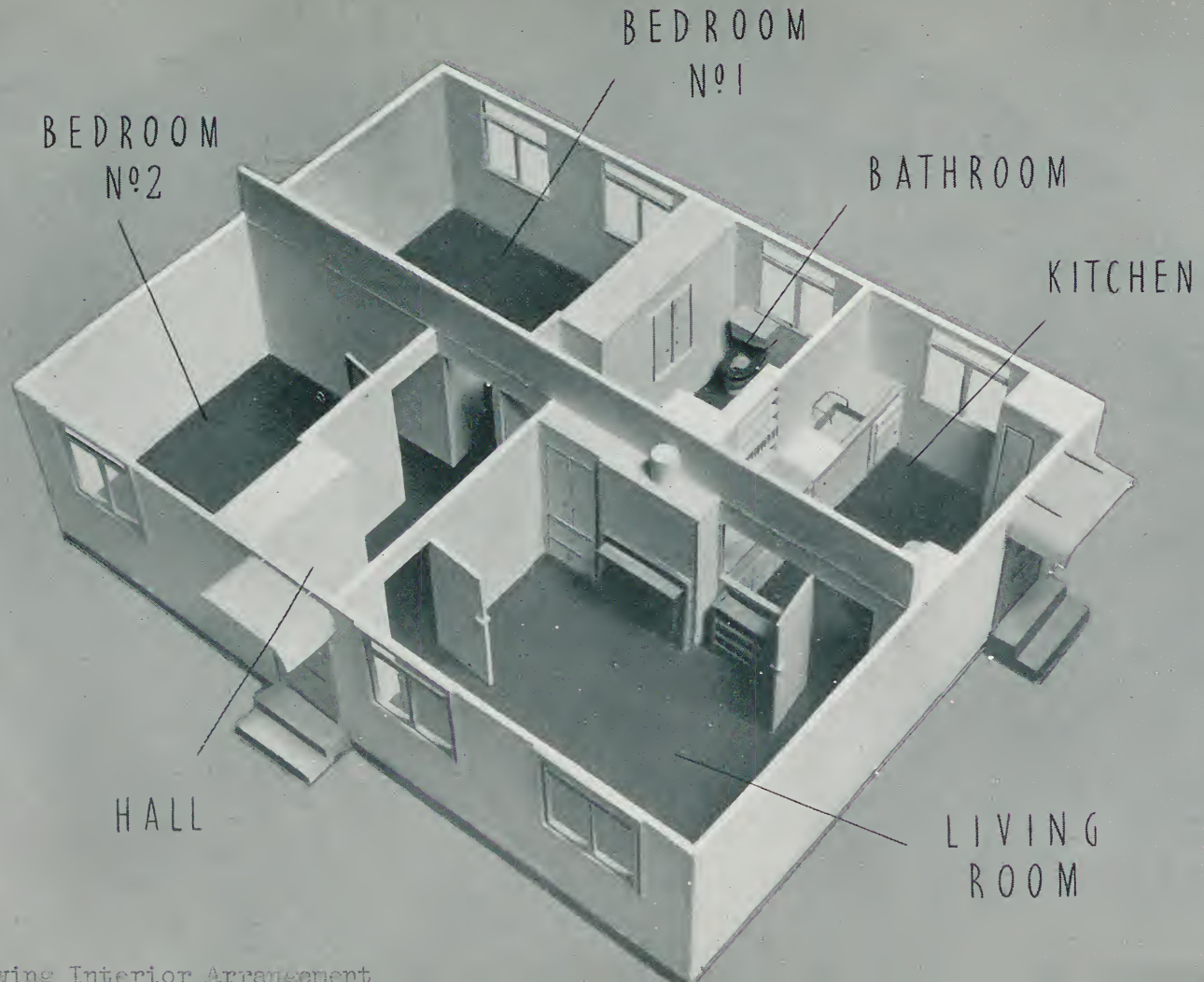
A ventilator is provided over each window to give permanent ventilation to each room.

Heating and Plumbing

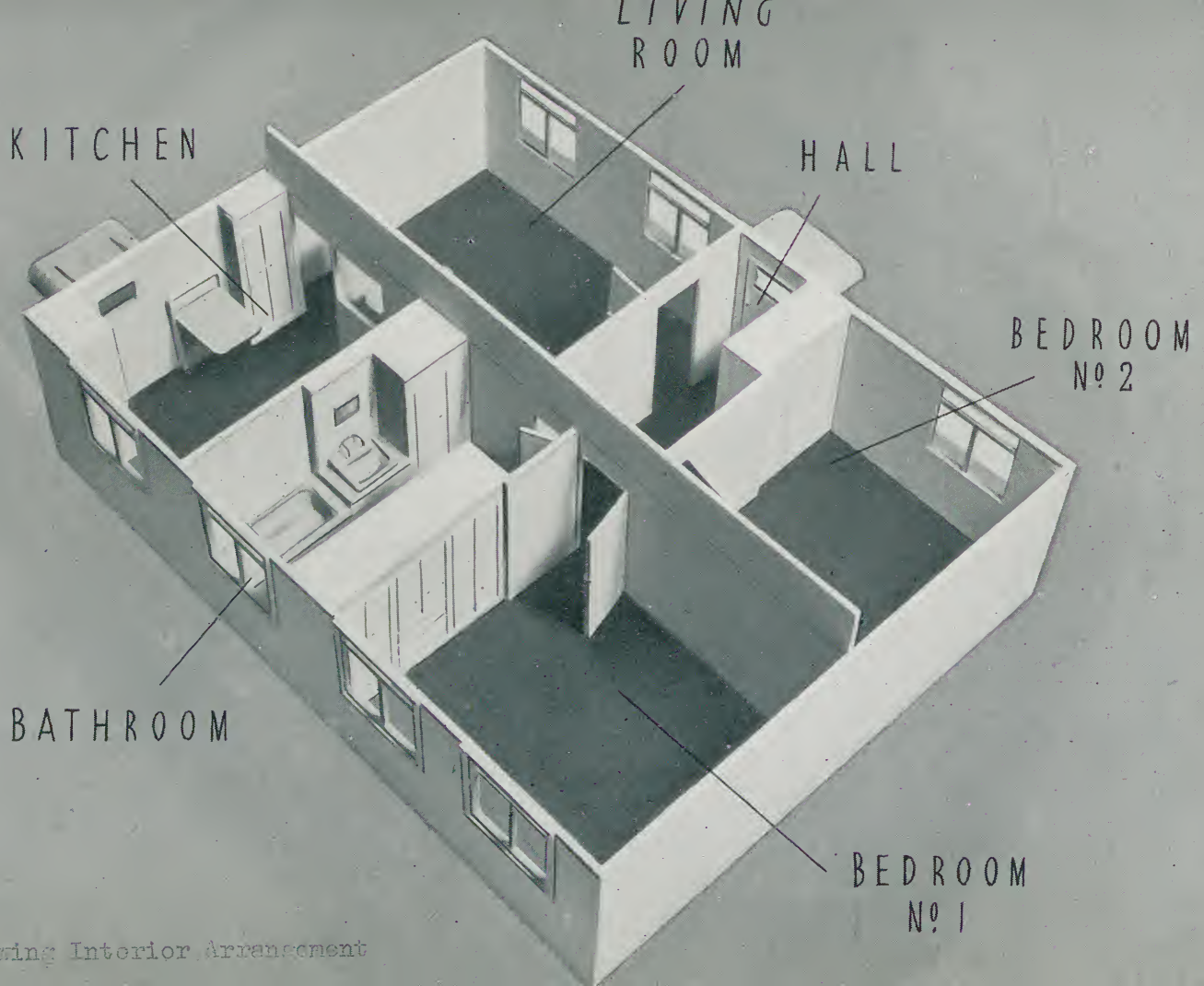
A slow combustion stove is fitted in the living room to provide heating for the room and for the hot water service, surplus heat from the stove is led through ducts to both bedrooms.

The hot water tank is also fitted with a thermostatically controlled electric immersion heater allowing for a hot water supply when the slow combustion stove is not in use.

Hot water is supplied to the kitchen sink, bath, towel rail and wash basin.



View Showing Interior Arrangement



View Showing Interior Arrangement

All piping is of copper manufacture and is built into the partition between kitchen and bathroom, an inspection panel is provided to allow access to the pipes, this arrangement avoids exposure of unslightly piping.

Electrical Installation

This is so arranged that the lighting cable is carried above the ceiling, to the ceiling lights which are fitted in each room and the switches are of the fluch fitting wall type.

An electric light is fitted above the kitchen unit, cooker, sink etc. in addition to the ceiling light so that the Housewife does not stand in her own light whilst working. The power sockets are of the safety shutter type and are fitted to the skirting boards in bedrooms and living room for electric fires, reading lamps, radio etc.

There is also a switched socket in the kitchen with two additional sockets for the refrigerator and wash boiler respectively.

The house is constructed at the factory in four separate units A.B.C. & D. (or slices as they are sometimes called) measuring approximately 22½ feet by 7½ feet, each unit comprising floor, walls and roofing.

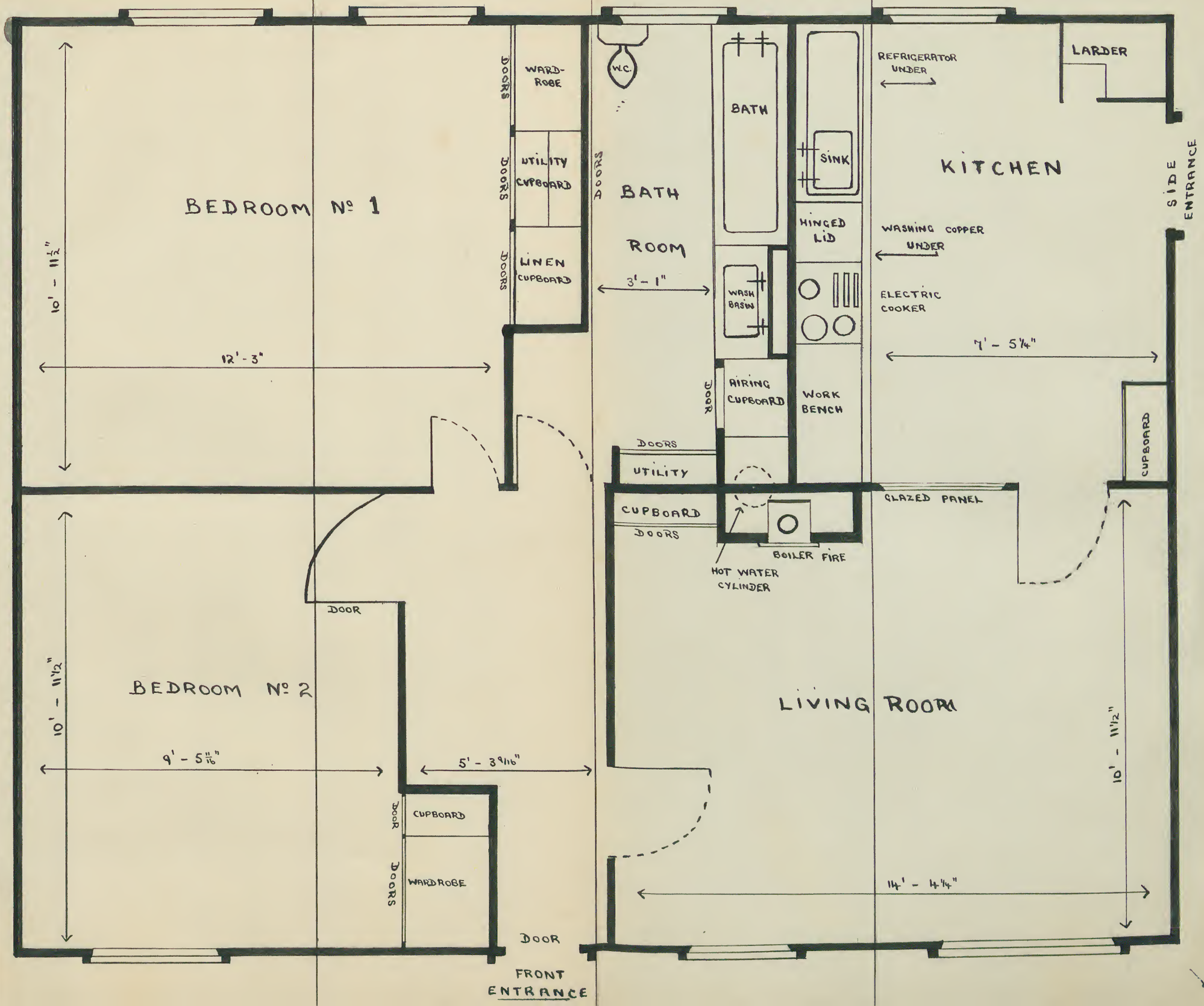
The units are transported on special trailer lorries from factory to site, the units A.B. C. & D. are then lifted by crane from the trailer on to the site and secured together by special mechanical interlocking joints.

The outer walls of the house are made of aluminium alloy sheet.

The inner walls are made of plaster board.

The space (approximately 2½ inches) between the inner and outer walls is filled with light weight foamed concrete blocks of high insulation value, thereby tending to keep the house warm in winter and

PLAN


UNIT "D"
UNIT "C"
UNIT "B"
UNIT "A"
BEDROOM Nº 1
10' - 11½"
12' - 3"
DOORS
WARD-ROBE
DOORS
UTILITY CUPBOARD
DOORS
LINEN CUPBOARD
W.C.
BATH
DOORS
BATH ROOM
3' - 1"
BATH
SINK
HINGED LID
WASH BASIN
DOOR
AIRING CUPBOARD
WORK BENCH
REFRIGERATOR UNDER
LARDER
KITCHEN
SIDE ENTRANCE
WASHING COPPER UNDER
ELECTRIC COOKER
7' - 5¼"
CUPBOARD
GLAZED PANEL
DOORS
UTILITY
CUPBOARD
DOORS
BOILER FIRE
HOT WATER CYLINDER
DOOR
BEDROOM Nº 2
10' - 11½"
9' - 5 11/16"
5' - 3 9/16"
DOOR
CUPBOARD
DOORS
WARDROBE
DOOR
FRONT ENTRANCE
LIVING ROOM
10' - 11½"
14' - 4¼"

cool in summer.

Aluminium alloy is naturally highly resistant to atmospheric corrosion, but as an additional precaution, structural sections and wall facings undergo a special anti-corrosive treatment during manufacture.

On the Odd Down playing fields where the Alluminium houses have been erected in Bath, the concrete roads built for this estate are intended to be of a permanent nature, which means that this site will in years to come be utilised as a permanent housing estate, the same applies to the drains and supplies of gas and electricity.

The bungalows are so arranged that they have an average of 10 feet of ground in the front, from 5 to 6 feet at the sides and 20 feet at the rear. There is a concrete slab surround and a concrete approach from the roadway to the house and from the backdoor to the coal house.

The coal house is a galvanised brick end shed suitable for coal or for use as a bicycle shed.

A rain water butt with over flow drain is situated near the back door on either a brick or concrete foundation.

Both the front and back doors are provided with a canopy and a wireless aerial is attached to the roof all ready for use.

CHAPTER 5.

UNI-SECO'S PRE-FABRICATED BUILDINGS

Uni-seco's like many other firms have been building temporary bungalows for the Government and in 1946 they headed the list for highest erection figures. Their scheduled number was 30,000.

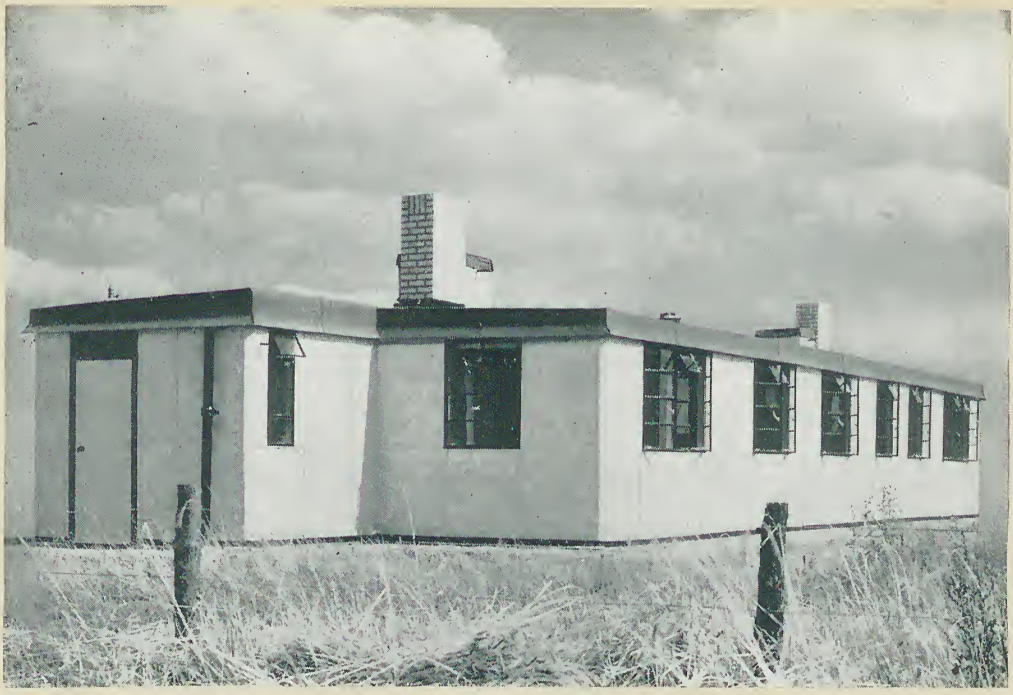
Of the 476 temporary bungalows in Bath 264 are of Uni-seco design.

Unlike other firms on pre-fabricated buildings, "seco" system was conceived back in the grim days of September 1940 when the war building programme was in its infancy and when the Government was faced with the problem of housing the thousands of workers who would be needed in the new factories. Uni-seco's realised that traditional methods could not provide quickly enough all the accommodation that was needed. Therefore the answer lay in a revolutionary system of rapid building, employing a high percentage of unskilled labour in the factory, eliminating all unnecessary site work and using materials in good supply.

The system of "Seco" was thus evolved.

A new industry has therefore been established creating a nation-wide organisation, embracing manufacture, storage, distribution and site assembly; an organisation which is playing its part in the work of reconstruction and which as energetically contributed to the fulfilment of war emergency undertakings.

A great deal of experience of single storey buildings was gained during the war by the erection of single-storey domestic dwellings, as married quarters for wartime building schemes, agricultural workers cottages, and standard type hutments.



AGRICULTURAL WORKERS' COTTAGE

LIVING QUARTERS FOR SERVICE PERSONNEL

Naturally the war time buildings suggest "temporary" construction, but Seco's say that their life is by no means "Temporary" in the sense that their life is restricted to a few years.

All the basic materials used in the construction of the system are known, well tested in the usage, and being themselves of a permanent character, it may be reasonably assumed, therefore, that in their combined form they will prove durable over a long period; subject of course, to reasonable maintenance being given.

Although the development of the "Seco" system has taken place since the outbreak of the war, it was primarily designed to meet domestic requirements. The original plans were based on the cellular constructional system, in which the roof loads are carried on

the internal partitions. Subsequently, the demand for open-floor type buildings took precedence over domestic requirements, and the beam and column construction was evolved to meet it.

Hutting for the housing of service personnel was one of the first war-time needs, and the "Seco" system was adapted to meet the requirements of standard Ministry drawings. Seco has provided a great number of these standard type hutments during the national emergency. What is more important, buildings such as hospitals, canteens, offices and living quarters, normally constructed by conventional building methods, have been provided by the Seco system. These buildings, of which there are examples all over the British Isles, represent war-time architecture for utilitarian purposes. They do not pretend to be prototypes of Seco buildings for normal civilian needs.

The illustrations show single storey type buildings, looking somewhat similar externally, the interior photographs however, emphasise the wide variety of pleasing effects which were secured by the use of standard units, even during the war.

SERVICE PERSONNEL HUTS

HOSPITAL BUILDINGS

NAAFI CANTEEN

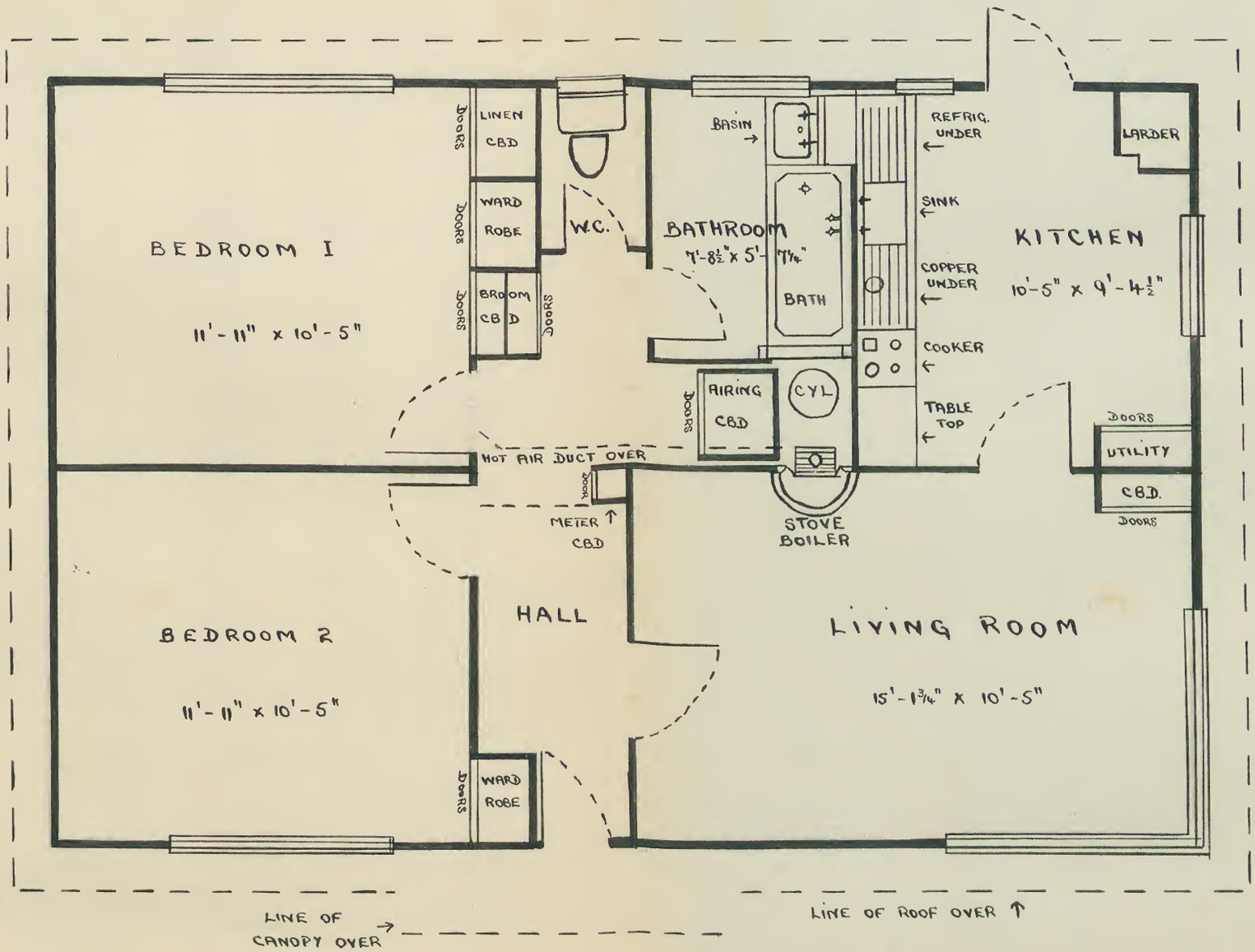
OFFICE

The Uni-seco bungalow (side hall entrance) and the Seco Mark 3 (central hall entrance) are the two designs of temporary houses made by Uni-seco's that have been approved by the Ministry.

The side hall design proved to be very unpopular, and after 7,000 had been manufactured no more were made. Of this number 24 were erected in Bath.

Plans of both designs will be seen in this chapter, and it will be seen why the side entrance, proved so unpopular because of the situation of the bedrooms.

Naturally all types of temporary factory-made houses approved by the Government resemble one another to a large extent, and the Uni-seco and AIROH houses


BEDROOM 1
11'-11" x 10'-5"
LINEN CBD
WARD ROBE
BROOM CBD
DOORS
W.C.
BASIN
BATHROOM
7'-8½" x 5'-7¼"
BATH
REFRIG. UNDER
SINK
COPPER UNDER
COOKER
TABLE TOP
KITCHEN
10'-5" x 9'-4½"
LARDER
AIRING CBD
CYL
HOT AIR DUCT OVER
METER CBD
STOVE BOILER
UTILITY
C.B.D.
BEDROOM 2
11'-11" x 10'-5"
HALL
LIVING ROOM
15'-1¾" x 10'-5"
LINE OF CANOPY OVER
LINE OF ROOF OVER

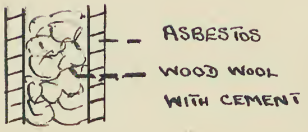
are practically identical as regards layout.

Internal fittings vary slightly although the greatest difference is the material used for the walls, roof etc.

Uni-secco panels are made up as follows:-

Two sheets of asbestos are filled in the centre with wood wool and cement

SECTION OF PANEL



This is claimed to be the equivalent of a 13 inch brick wall.

The main panels are 7' by 3'.

Joining posts join units at corners or on the straight any unit marries up to another unit.

All the panels, doors, windows etc. are delivered to the site by lorry and the exterior of one house can be put up in 40 man hours. Unlike the AIROH house it is built up on the site.

The only tools required to erect a house are a hammer and a screwdriver.

The roof is exactly the same as the walls (set on a slight slope from the centre) therefore equivalent to a 13 inch brick wall.

The fitments are made of pressed steel or plywood.

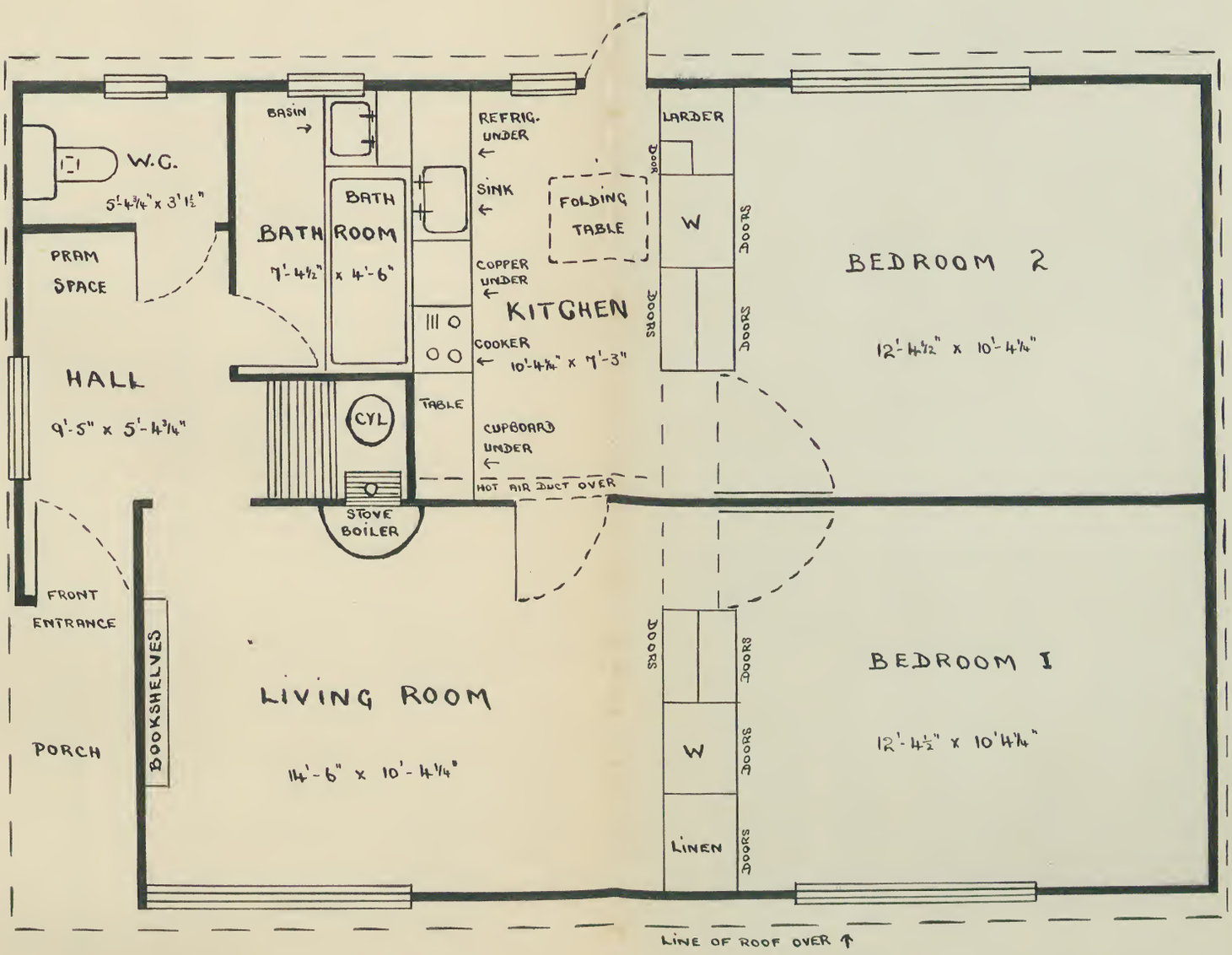
Living Room

The usual plan with the addition of a picture rail.

The fire burns coal, coke or anthracite, and has an automatic rake.

Kitchen

The kitchen unit is of Government design


W.C.
5'-4¾" x 3'1½"
BASIN
BATH ROOM
7'-4½" x 4'-6"
REFRIG. UNDER
SINK
COPPER UNDER
KITCHEN
COOKER
10'-4¾" x 7'-3"
TABLE
CUPBOARD UNDER
HOT AIR DUCT OVER
CYL
STOVE BOILER
FOLDING TABLE
LARDER
DOOR
W
DOORS
BEDROOM 2
12'-4½" x 10'-4¼"
PRAM SPACE
HALL
9'-5" x 5'-4¾"
FRONT ENTRANCE
BOOKSHELVES
PORCH
LIVING ROOM
14'-6" x 10'-4¼"
BEDROOM 1
12'-4½" x 10'4¼"
LINEN
LINE OF ROOF OVER

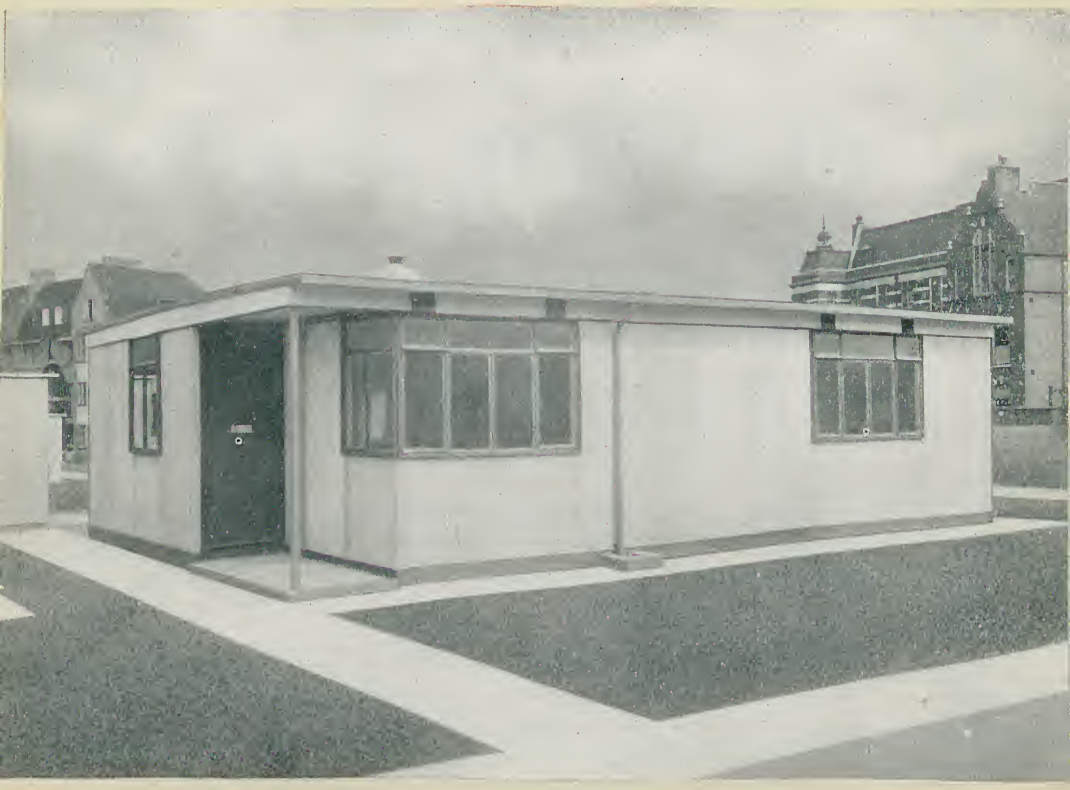
UNI-SECO BUNGALOW (CENTRAL HALL ENTRANCE)

LIVING ROOM FURNISHED WITH UTILITY FURNITURE

and all the houses being sent to Scotland are fitted with a second sink instead of a wash boiler, as Scottish housewives prefer two sinks for their wash day.

The coal shed is either an Anderson shelter if the Local Authorities have any to spare or a hut made from Uni-seco sections.

The Contractors in different towns when they take on a contract to erect say 200 Uni-seco temporary houses, are invited by Uni-seco's to send up a few of their men to their head office in London, and there they are instructed by an Instructor how exactly to build up the houses. They can actually see a house being erected as well as being instructed by a syncrophone.



SIDE HALL ENTRANCE TYPE BUNGALOW

CHAPTER 6.

PREFABRICATED HOMES OF THE FUTURE

While it is true that there are many systems of prefabrication which feature the complete standardisation of houses, it would be erroneous to assume that every system must, therefore, threaten to short circuit the services of the architect.

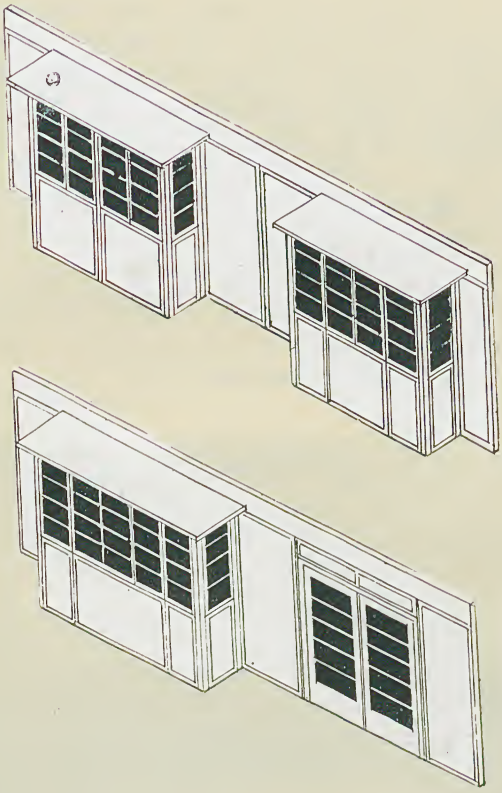
Eight out of every ten of the houses erected in this country during the inter-war period were built without architectural guidance. Such false economy and attempts at practical standardisation possess neither the benefits of mass production nor the charms of individual design of workmanship.

Unit construction and dry assembly systems have been the aims of progressive architects for many years, and their realisation opens up new and unlimited possibilities.

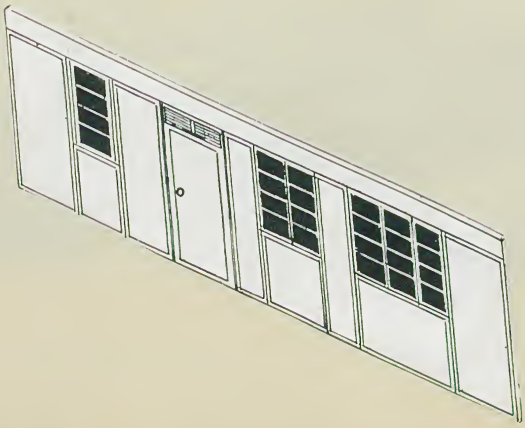
Seco's have published some of their ideas for the future and they say that their system becomes a tool in the hands of the architect, with which he may create the type of building which will be required. Architects have proved that they have the understanding and trained judgment to devise and to apply modern mass produced components. The use of standard windows, doors, rain and soil pipes and many other factory-made articles, does not cramp the vision or conception of a whole co-ordinated project. One may be allowed to assume therefore that unit construction in combination with the imagination and practical knowledge of architects will result in an improved building technique more suitable to our times.

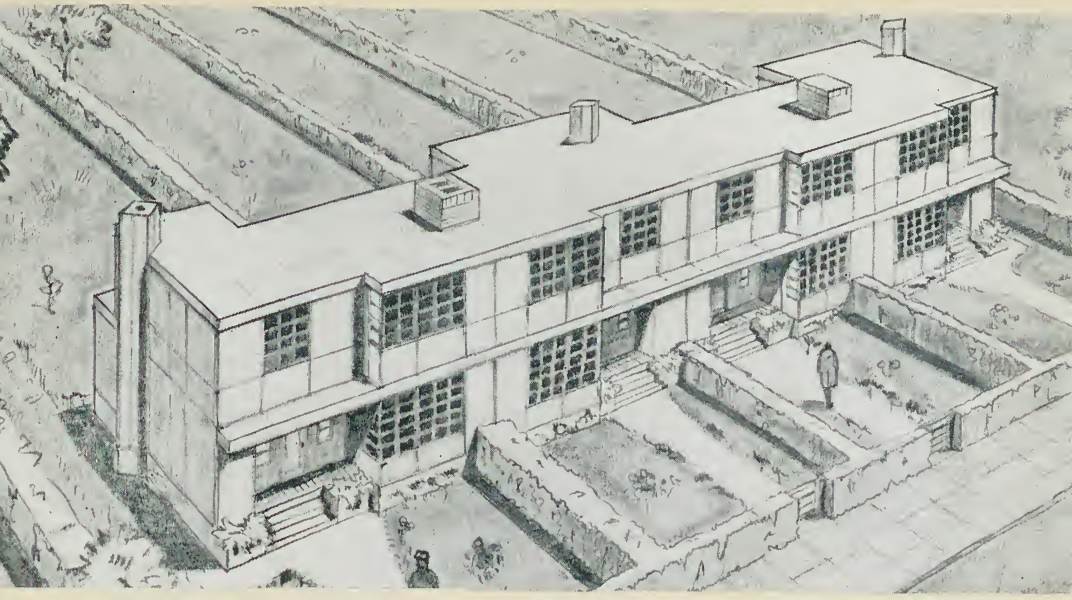
The Seco design is governed by the basic measurements of their No. 1 wall unit. Freedom of planning, though, is in no way hampered, as Seco's claim to have carried out 250 individual designs.

Many of these designs were based on official drawings already in existence prepared by architects, and in no instance was it necessary to depart from the overall dimensions more than 10 inches. The internal dimensions however benefited because of the saving in wall and partition thicknesses.



An almost unlimited range of combinations can be planned utilising the various sizes of standard metal windows in conjunction with wall units and components.



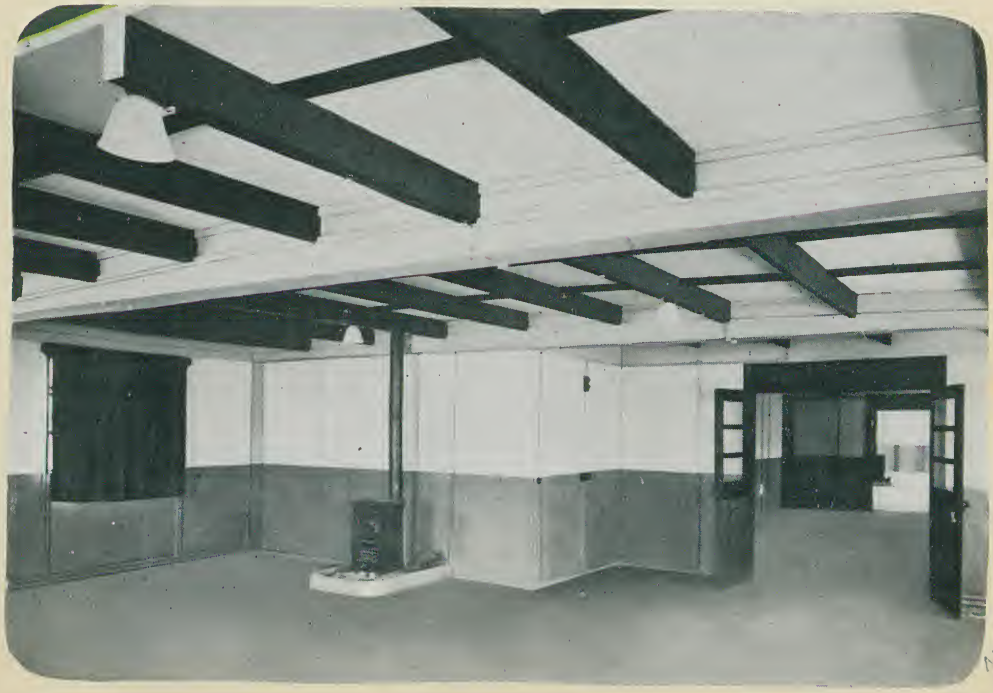


An architect's conception of a block of terrace houses planned in Seco.

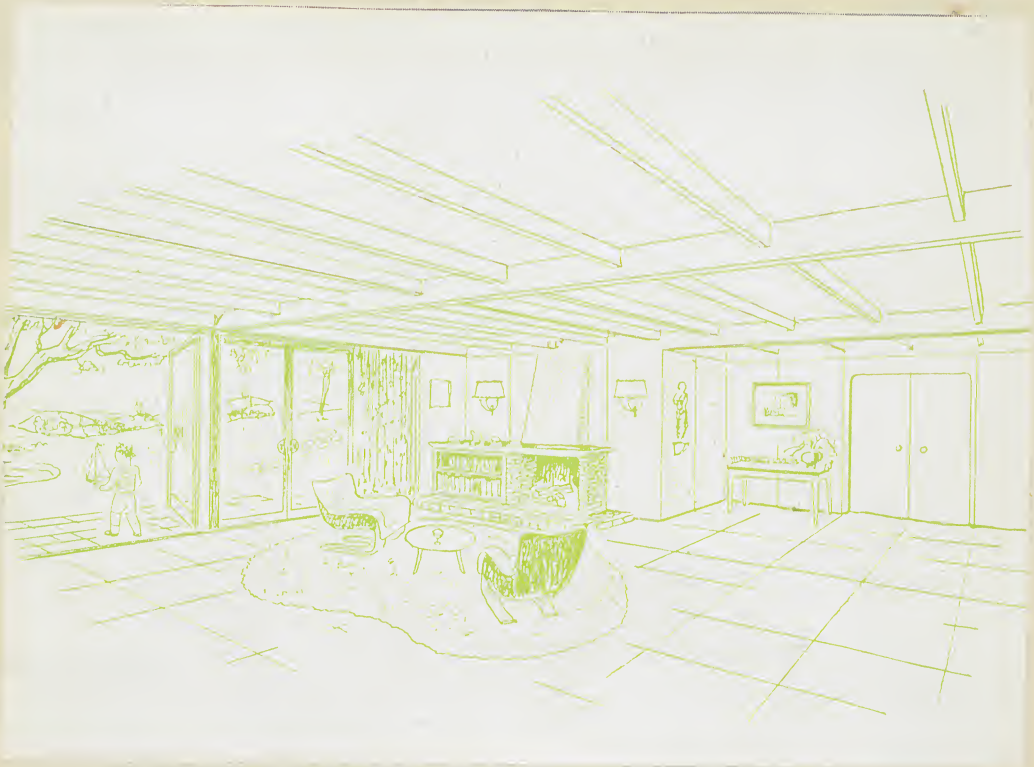
Whether the architect emphasises interior panelling effects or prefers a modern treatment of the surfaces is a matter for individual taste.

The two illustrations below show a variation of the same theme.

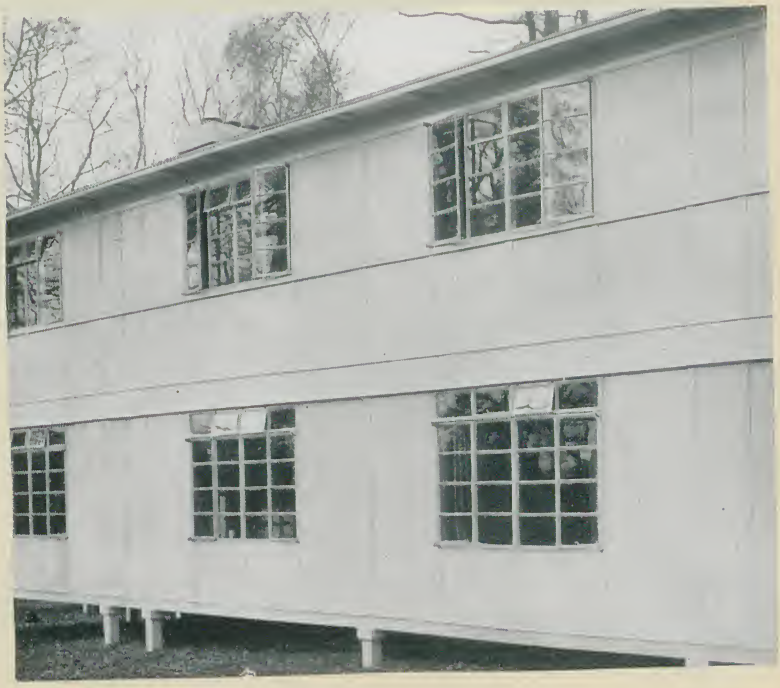
A room in a Sergeants' Mess.



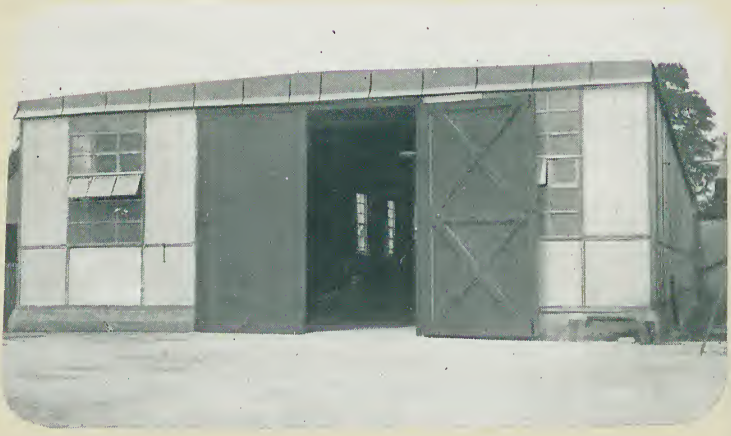
A modern living room.



To show the ease with which an alteration can be made to an existing building, the ordinary window in two adjoining sitting rooms of two houses were converted into deep bays, and the whole operation was completed in one working day by three men.

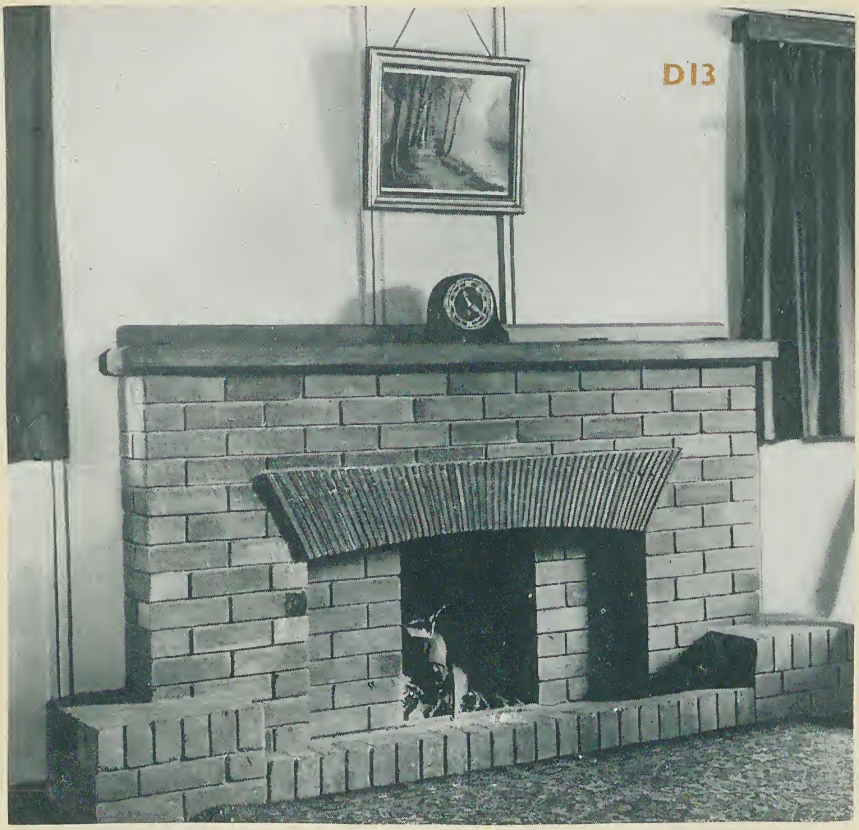


Increased light and 30 square feet of space were added to each of the rooms.



For high ceiling or low ceiling buildings, garages, stores, etc., special doors can be manufactured to order.

No site measurements are necessary to ensure that the staircase fits the building. The stairs arrive in sections of a size convenient for transport and assembly after the building is erected.



Brick fireplaces of many types have been added to buildings. The usual procedure has been to build the fireplace within the building with the stack passing through the roof; alternatively to omit a unit in the walls, build the chimney breast within the building and allow the stack to project on the exterior.

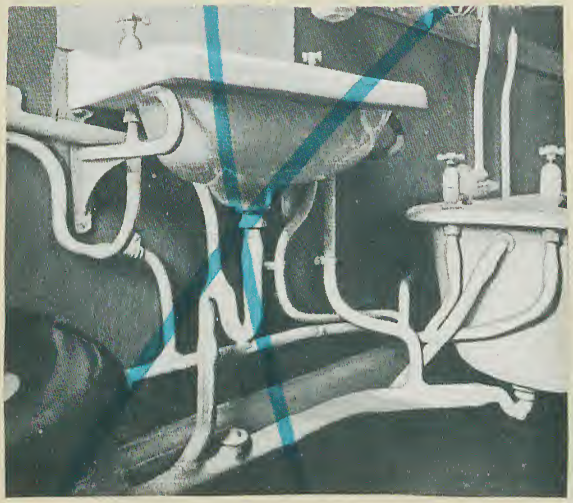
Bathroom Units

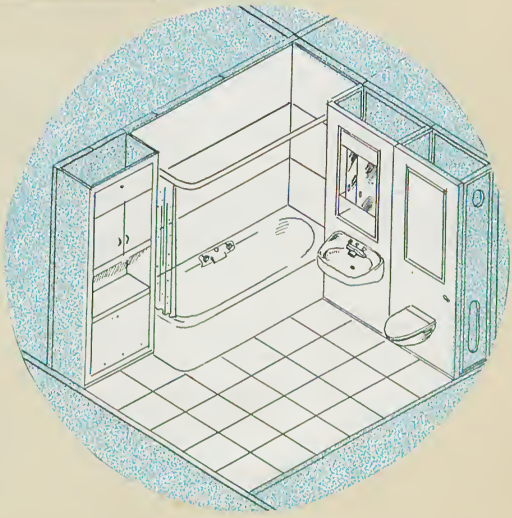
The picture below shows what so often happens when structure and installations are brought together without method or forethought.

With prefabrication however units can be made in which all piping and services can be concealed, but are none the less accessible for maintenance and repairs.

Awkward corners and dust collecting angles are also eliminated.

Units will be adaptable to suit individual requirements, and made in colour schemes to suit personal tastes as well as in price ranges to suit varying incomes.

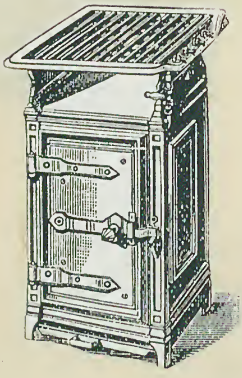




Kitchen Units

In years past, when every part of a house was built on the site, the kitchen was planned to suit the individual house, and functioned with relative efficiency, considering that neither modern equipment nor services were available. Strange as it may seem though, the beginning of kitchen "inefficiency" can be traced to the introduction of "prefabrication" in kitchen fixtures. Builders then adopted the principle of constructing the room, and leaving the housewife to gather together the fittings she needed and to place them as best she could. In consequence stoves, tables, cupboards, refrigerators etc., were purchased piecemeal and placed haphazardly in the kitchen as they were acquired. Thus structure and appliances were divorced.

With kitchen units however the design and lay-out are the concern of the owner or his architect.



XIX CENTURY

Gas, water, etc., becomes available and appliances take the shape of prefabricated units - without regard to the structure of the building.